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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,054	07/09/2003	Donald M. Justus	2003-IP-010088	9523

7590 07/06/2005  
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EXAMINER

STEPHENSON, DANIEL P

ART UNIT PAPER NUMBER

3672

DATE MAILED: 07/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/616,054	JUSTUS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Daniel P. Stephenson	3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-16 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 09 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

*PS*

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1 and 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Norman et al. in view of Chen et al. Norman et al. (Fig. 1 and 2, col. 3 and 4) discloses a method of fracturing a subterranean formation. The method includes the steps of: injecting a fracture fluid (10) into a centrifugal pump (14); injecting a controlled amount of a sand suspension (20) into the centrifugal pump; and discharging (16) a mixture of the sand suspension and fracture fluid from the centrifugal pump having a certain concentration. The concentration of the mixture is monitored. The amount of the sand suspension being injected into the centrifugal pump is varied with a metering device until a desired concentration of the mixture is attained. The fracture fluid can be water with a gelling agent. The sand suspension can be a mixture of ~60 lb./gal of xanthan (col. 4 line 66) with anywhere from 0-26 lb./gal of sand (col. 4 line 34). The sand suspension will have water in the mixture. In an alternate embodiment the streams of the fracture fluid and particulate slurry flow through pressurizing pumps before getting to the T-junction or other mixing device, i.e. pump. The pump (14, 112, 122) is disclosed as a specific triplex pump, but it is stated that any other suitable pump can be used (col. 4 lines 53-56).

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Norman et al. does not specifically disclose that the metering device (22) is a pinch valve, nor is it specifically disclosed that the formation being fractured is one in which the oil has been recovered.

Chen et al. (col. 10 lines 53-60) discloses using a pinch valve with particulate slurries that are being pumped. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the pinch valve of Chen on the apparatus of Norman et al. This would be done to allow the conduit to be fully opened as taught by Chen et al.

It is officially noticed that it is common practice in the art to stimulate a formation in which the oil has been removed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the apparatus of Norman et al. in view of Chen et al. to fracture a formation in which the oil has been recovered.

4. Claims 2, 7, 8, 10, 11 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Norman et al. in view of Chen et al. and Murphey et al. Norman et al. in view of Chen et al. shows all the limitations of the claimed invention, except, it does not disclose that there is a fluid additive injected into the centrifugal pump, nor does it disclose that there is a pump after the mixing pump for pumping into the formation. Murphey et al. discloses passing a multitude of streams into a mixing area then pumping the mixture downhole. These streams include a liquid additive that can be a breaker fluid. After the mixture is mixed it passes into a pump that injects it into the formation. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the additive stream and the additional pump of Murphey et al. with the apparatus of Norman et al. and Chen et al. This would be done so that a

breaker fluid could be introduced when fracturing was complete and so that pressure was maintained for injection.

5. Claims 9, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Norman et al. in view of Chen et al. and Murphey et al. as applied to claim 8 above, and further in view of Cedillo et al. Norman et al. in view of Chen et al. and Murphey et al. shows all the limitations of the claimed invention, except, it does not disclose that the pinch valve, pumps, flow meter and densiometer are controlled through the use of a microprocessor and LAN. Cedillo et al. discloses using computer control to control the density of a well fracturing slurry. It uses a number of valves, pumps, flow meters and densimeters, that are all computer controlled. This inherently would use a local area network cable to communicate among the devices. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the computer control of Cedillo et al. with the apparatus of Norman et al. in view of Chen et al. and Murphey et al. This would be done so that all the mechanisms could be controlled from one location and allow the user readouts of the current status of the apparatus.

#### *Response to Arguments*

6. Applicant's arguments filed 3/9/05 have been fully considered but they are not persuasive.

7. It is the assertion of the applicant that the combination of Norman et al in view of Chen et al. is lacking two elements present in the claim. The first element is that they fail to disclose "a centrifugal pump, which mixes a fracture fluid with a sand suspension, and a pump that pumps the mixture discharged from the centrifugal pump downhole into the subterranean formation" (remarks 3/9/05, page 2 lines 21-23). Examiner acknowledges the fact that this is not disclosed.

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However, it is also not a claimed limitation under this rejection. The limitation as claimed is “pumping the mixture downhole into the formation” (claim 1). It does not state needing a second pump. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The second element that is allegedly not present in the combination is the limitation that the concentration of the mixture is monitored. Examiner respectfully traverses the assertion that it is not present. The slurry is being monitored as it is being created (with the metering devices) in order to discharge a slurry of a certain concentration. Unless the method steps have a defined order, any method that includes those steps need not have the same order as presented in the claims.

8. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

9. It is the assertion of the applicant that it would not be inherent of Cedillo et al. to use as a LAN cable to control the apparatus present. Examiner respectfully traverses this assertion. It is common knowledge in the wellbore art today (see Nenniger et al., reference numeral “400”) that any network that communicates among various pieces of equipment will use one of many lines

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with a LAN line being one of the more convenient and robust for communication. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a LAN line in the system of Cedillo et al.

***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel P. Stephenson whose telephone number is (571) 272-7035. The examiner can normally be reached on 8:30 - 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
David Bagnell  
Supervisory Patent Examiner  
Art Unit 3672

DPS 